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TITLE: Postdoctoral Research Associateship Program with USAMRMC

PRINCIPAL INVESTIGATOR: Judith K. Nyquist, Ph.D.

CONTRACTING ORGANIZATION: National Academy of Sciences
Washington, DC 20418-0001

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THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine
National Research Council
RESEARCH ASSOCIATESHIP PROGRAM

with the

**U.S. Army Medical Research and Materiel Command
(AMRMC)**

Contract Annual Technical/Status Report

Contract Period: 9/4/1995- 2/28/2003

Contract number: DAMD17-95-2-5012

Publicity

The National Academies Research Associateship Programs for the contract period were announced to the scientific community in the fall of the preceding year, 2001. Publicity materials describing the National Research Council-U.S. Army Medical Research and Materiel Command (AMRMC) Program were distributed in November to presidents, graduate deans, and heads of appropriate science and engineering departments and minority-affairs offices of all academic degree-granting institutions in the United States. An e-mail announcement of the Programs was sent to these same contact points prior to each review deadline. Promotional materials were sent to Laboratory Program Representatives, Associateship Advisers, and other interested persons. General advertisements of Programs were placed in leading scientific and engineering publications. Publicity materials and other related information were made available on the internet. Research Associateship Programs staff attended numerous society meetings and minority recruitments to promote the various Programs and meet with prospective applicants throughout the year.

Requests

Application materials were distributed in response to specific requests for information about the AMRMC Research Associateship Program or as a result of general requests by persons whose fields of specialization appeared to be appropriate for the research opportunities available in the AMRMC laboratories.

Competition

Panel reviews of applicants for the Research Associateship Programs, including those with the U.S. Army Medical Research and Materiel Command, are conducted in winter, spring, and summer of each year. The following is a breakdown of the action taken with the applications during the contract period.

	<u>winter -01</u>	<u>spring- 02</u>	<u>summer- 02</u>	<u>TOTAL</u>
TOTAL APPLICATIONS	7	16	17	40
Number of Applications Reviewed	4	15	12	31
Applications Not Recommended (not passed Review)	3	1	5	9
Applications Recommended (passed Review)	4	15	12	31
Awards Offered	2	10	10	22
Awards Accepted	2	9	6	17
Awards Declined	0	0	1	1
		1	3	4
Awards Withdrawn by NRC (Code X/291) (NRC officially withdraws award <i>after</i> it has been accepted)	0	0	0	0

Associates' Citizenship

Associates on tenure between 10/1/2001 and 9/30/2002 were citizens or Permanent Residents of the following countries:

Australia	3	Italy	1
Bangladesh	1	Mexico	1
Denmark	1	People's Republic of China	6
Ecuador	1	Poland	1
Ghana	1	Russia	4
Hungary	2	Ukraine	1
India	3	United States	30
Israel	1		

Associates' Activities

Associates who ended tenure during the contract period were on tenure for an average of **28** months, ranging from **12** months to **42** months.

Of the **21** Associates who ended tenure during the contract period, **18 (86%)** submitted reports. In the termination reports, Associates indicated the following scholarly activity while on tenure.

7 Articles Published in Refereed Journals	11 International Presentations
4 Patent Applications	38 Domestic Presentations

After ending their tenure, Associates indicated their future plans as follows:

3 Remain at Host Agency as Perm. Employee	- Research/Teaching-US College/University
5 Remain at Host Agency as Contract Employee (Abbreviation of Host Agency)	3 Research/Teaching at Foreign College/University
3 Research Position at Other US Gov't. Laboratory	1 Research/Admin in Industry
- Administrative Position at US Gov't. Laboratory	- Research/Admin in Non-Profit Organization
2 Research Position at Foreign Gov't. Laboratory	1 Postdoctoral Research
	- Self Employed
	1 Other (may include unemployed)

In their final reports, Associates were asked to evaluate certain aspects of their experiences on a scale of 1 (low) to 10 (high). The average rating for each item follows:

9.7	<i>Short-Term Value:</i>	Development of knowledge, skills, and research productivity
9.7	<i>Long-Term Value:</i>	How your NRC Research Associateship affected your <i>career</i> to date
8.7	<i>Laboratory:</i>	Quality of the support you received from the federal <i>Laboratory</i>
9.1	<i>NRC:</i>	Quality of the support you received from the <i>NRC</i>

Advisers also were asked to complete an evaluation of the Associate. The following summarizes the Adviser evaluations for Associates ending tenure during the contract period. Of the **21** Associates who ended tenure, **18 (86%)** Adviser evaluations were completed. Assessments were made on four criteria using the following rating scale: 1-below average, 2-average, 3-above average, 4-good, and 5-outstanding/exceptional. The average rating for each item follows:

4.3 Knowledge of Field	4.1 Independence
4.0 Innovative Thinking	4.3 Motivation
4.4 Research Techniques	4.0 Overall Scientific Ability

The Adviser was asked, "Would you like this Associate as a Professional Colleague?" The Advisers responded in the following manner:

6 86%	Yes	- 0%	No Comment
1 14%	No	- 0%	No Answer

Additional information about the Associates' activities can be found in the attachments described below and the Appendix.

Attachment 1: Associates who ended their tenure between 10/01/2001 and 9/30/2002. It includes the Associate's Laboratory location, the starting and termination dates, and the names of their Advisers. Associates are required to submit reports upon termination, and Advisers are asked to submit a final evaluation of each Associate. Associates who have not submitted a termination report have received follow-up correspondence.

Attachment 2: Associates on tenure between 10/01/2001 and 9/30/2002. It includes the Associate's Adviser, Laboratory location, start and expected termination dates, and country of citizenship.

Attachment 3: Applicants who received and accepted awards between 10/01/2001 and 9/30/2002. It includes the title of the research proposals.

Attachment 4: All recommended candidates by category (e.g., Accepted, No Funding, Declined, etc.). This report includes information about the Ph.D. institution, title of proposed research, starting date, and Adviser.

Attachment 5: Cross tabulation of the number of Associates on tenure at each Laboratory/Center by quarter for the year within the contract period and for the years preceding and following the contract period.

Attachment 6: Patent applications, if applicable, and Summaries of Research from the Associates' Final Reports. This list includes the patent application titles, inventor(s) and dates of application.

Appendix: Final Reports received from the Associates who ended tenure during the contract period.

Associates Who Ended Tenure 10/1/2001 - 9/30/2002

Attachment 1

U.S. Army Medical Research and Materiel Command

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Associate Name+ Adviser	Center	Tenure Dates		Termination Report	Adviser Report
		Start	End		
Allon, Nahum(S) Dr. Carl R. Alving	Walter Reed Army Institute of Research	8/01/00	3/06/02	Received	Received
Babai, Ilan Dr. Carl R. Alving	Walter Reed Army Institute of Research	7/17/00	7/16/02	Not Recd	Not Recd
Cohen, Sara(S) Dr. Luther E. Lindler	Walter Reed Army Institute of Research	8/02/01	8/01/02	Not Recd	Not Recd
Darko, Christian Asare Dr. Jeffrey A. Lyon	Walter Reed Army Institute of Research	11/09/98	5/08/02	Received	Not Recd
Dekonenko, Alexander Evgeniev Dr. Connie S. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases	11/02/98	11/01/01	Not Recd	Not Recd
Dillman, James F., III Dr. John J. Schlager	U.S. Army Medical Research Institute of Chemical Defense	11/29/99	4/19/02	Received	Not Recd
Dow, Geoffrey Stuart Dr. Rodger K. Martin	Walter Reed Army Institute of Research	8/07/00	8/06/02	Received	Not Recd
Erwin, James Lawrence Dr. Tran C. Chanh	U.S. Army Medical Research Institute of Infectious Diseases	8/10/98	2/09/02	Received	Received
Grogan, Case Kyn Dr. Alan L. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases	6/26/00	8/09/02	Received	Not Recd
Guerrero-Ontiveros, Maria de Lo Dr. Luther E. Lindler	Walter Reed Army Institute of Research	2/16/99	8/13/02	Received	Received
Heller, Elimelech Dan(S) Dr. Marcia K. Wolf	Walter Reed Army Institute of Research	10/02/00	10/01/01	Received	Not Recd
Kan, Robert Kwai Dr. John P. Petralli	U.S. Army Medical Research Institute of Chemical Defense	5/10/99	11/02/01	Received	Received
Leon Villalba, Luis Renato Dr. Michael J. Turell	U.S. Army Medical Research Institute of Infectious Diseases	5/25/00	11/24/01	Received	Not Recd
Liu, Liang Ming Dr. Michael A. Dubick	U.S. Army Institute of Surgical Research	4/08/99	10/07/01	Received	Not Recd
Milosevits, Janos(S) Dr. Carl R. Alving	Walter Reed Army Institute of Research	7/03/00	7/02/02	Received	Not Recd
Peng, Daizhi(S) Dr. Albert T. McManus	U.S. Army Institute of Surgical Research	1/05/99	5/04/02	Received	Received
Riemenschneider, Jenny Lynn Dr. Connie S. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases	3/01/00	7/19/02	Received	Not Recd
Roberson, Melinda Rice Dr. John H. McDonough	U.S. Army Medical Research Institute of Chemical Defense	5/02/00	5/31/02	Received	Not Recd
Troyer, Jill Michelle Dr. Daniel A. Strickman	Walter Reed Army Institute of Research	1/04/99	1/03/02	Received	Received
Yuan, Huijun Dr. Carl R. Alving	Walter Reed Army Institute of Research	4/09/01	3/31/02	Received	Not Recd
Zhang, Peng(S) Dr. Peter K. Chiang	Walter Reed Army Institute of Research	2/01/99	7/31/02	Received	Received

21 Associates Listed

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no entry on the Award Init Screen but data on the Post Tenure Screen.

U.S. Army Medical Research and Materiel Command

11/27/2002 Page 1 of 2

Associate Name+ Adviser	Center Citizenship	Starting Date	Ending Date
Ayyagari, Vijay Lakshmi Naga Dr. Jayasree Nath	Walter Reed Army Institute of Research India	7/03/00	7/02/03
Batchinsky, Andriy Ivanovich Dr. Leopoldo C. Cancio	U.S. Army Institute of Surgical Research Ukraine	1/09/01	1/08/03
Bodo, Michael Mihaly (S) Dr. Frederick J. Pearce	Walter Reed Army Institute of Research US Permanent Resident	2/14/00	2/13/03
* Chen, Yue-Qin (S) Dr. Peter K. Chiang	Walter Reed Army Institute of Research People'S Republic Of China	7/20/02	7/19/03
* Coberley, Sadie Shea Dr. Michael Hevey	U.S. Army Medical Research Institute of Infectious Diseases United States	7/29/02	7/28/03
* Cote, Christopher Kevin Dr. Susan L. Welkos	U.S. Army Medical Research Institute of Infectious Diseases United States	4/29/02	4/28/03
* Du, Yidong Dr. Luther E. Lindler	Walter Reed Army Institute of Research People'S Republic Of China	9/03/02	9/02/03
Fisher, Robert Walt St. George, IV Dr. Kevin Anderson	U.S. Army Medical Research Institute of Infectious Diseases United States	3/14/01	3/13/03
Fleming, Sherry D. Dr. George C. Tsokos	Walter Reed Army Institute of Research United States	1/02/01	1/01/03
Godkar, Praful Babaji Dr. Haresh Ved	Walter Reed Army Institute of Research India	2/23/01	2/22/03
Gonzalez, Liza Marie Dr. Connie S. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases Italy	1/08/01	1/07/03
Gooch, Jan Woodall (S) Dr. Albert T. McManus	U.S. Army Institute of Surgical Research United States	7/23/01	7/22/03
Gorbounov, Nikolai Viktorovich (S) Dr. Jayasree Nath	Walter Reed Army Institute of Research US Permanent Resident	10/10/00	1/09/03
Hillier, Collette Jane Dr. David E. Lanar	Walter Reed Army Institute of Research Australia	2/12/01	2/11/03
Islam, Dilara (S) Dr. Ladaporn Bodhidatta	Walter Reed Army Institute of Research Bangladesh	9/04/01	9/03/03
* Iversen, Johanne Birgitte Dr. Ladaporn Bodhidatta	Walter Reed Army Institute of Research Denmark	3/11/02	3/10/03
* Kerchner, Michael Thomas (S) Dr. Gary A. Rockwood	U.S. Army Medical Research Institute of Chemical Defense United States	7/01/02	4/30/03
* Lackner, Daniel Francis Dr. Michael Hevey	U.S. Army Medical Research Institute of Infectious Diseases United States	6/03/02	6/02/03
LaJambe, Cynthia Marie Dr. Nancy J. Wesensten	Walter Reed Army Institute of Research United States	1/03/01	1/02/03
* Manley, Heather Dr. Michael Adler	U.S. Army Medical Research Institute of Chemical Defense United States	9/09/02	9/08/03
McElroy, Anita Katherine Dr. Connie S. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases United States	4/05/01	4/04/03
* Mores, Christopher Nicolas Dr. Michael J. Turell	U.S. Army Medical Research Institute of Infectious Diseases United States	8/01/02	7/31/03

*Indicates that the associate started tenure between 10/1/2001 and 9/30/2002.

(S) Associate is a Senior.

Associates On Tenure

October 1, 2002

Attachment 2

U.S. Army Medical Research and Materiel Command

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Associate Name+ Adviser	Center Citizenship	Starting Date	Ending Date
Nair, Lalitha Punchayil Velayudhan (S) Dr. David E. Lanar	Walter Reed Army Institute of Research India	10/11/00	10/10/02
Olinger, Gene Garrard, Jr Dr. Mary K. Hart	U.S. Army Medical Research Institute of Infectious Diseases United States	6/04/01	6/03/03
Paragas, Jason Jared Dr. Michael Bray	U.S. Army Medical Research Institute of Infectious Diseases United States	7/24/01	7/23/03
Peachman, Kristina Kathryn Dr. Carl R. Alving	Walter Reed Army Institute of Research United States	6/01/01	5/31/03
* Petrikovics, Ilona (S) Dr. Steven I. Baskin	U.S. Army Medical Research Institute of Chemical Defense United States	9/03/02	9/02/03
* Russell, Bruce Dr. Jetsumon P. Sattabongkot	Walter Reed Army Institute of Research Australia	4/11/02	4/10/03
Savransky, Vladimir (S) Dr. Jeenan Tseng	Walter Reed Army Institute of Research Russia	2/12/01	2/11/03
* Shurtleff, Amy Christine Dr. Mary C. Guttieri	U.S. Army Medical Research Institute of Infectious Diseases United States	5/21/02	5/20/03
Steffen, Scott Edward Dr. Connie S. Schmaljohn	U.S. Army Medical Research Institute of Infectious Diseases United States	1/02/01	1/01/03
* Swenson, Dana Linne (S) Dr. Sina Bavari	U.S. Army Medical Research Institute of Infectious Diseases United States	3/13/02	3/12/03
Swietnicki, Wieslaw, Sr (S) Dr. Robert G. Ulrich	U.S. Army Medical Research Institute of Infectious Diseases US Permanent Resident	6/01/01	5/31/03
Tang, Qidong (S) Dr. Phillip D. Bowman	U.S. Army Institute of Surgical Research People'S Republic Of China	3/29/01	3/28/03
Thakur, Suman Siddharth Dr. Bhupendra P. Doctor	Walter Reed Army Institute of Research India	10/01/02	9/30/03
Ulrich, Ricky Lee Dr. David DeShazer	U.S. Army Medical Research Institute of Infectious Diseases United States	7/16/01	7/15/03
* Warfield, Kelly Lyn Dr. Sina Bavari	U.S. Army Medical Research Institute of Infectious Diseases United States	6/17/02	6/16/03
Weyand, Peter Gregory (S) Dr. Reed W. Hoyt	U.S. Army Research Institute of Environmental Medicine United States	9/20/99	12/31/02
Winter, David Bicknell (S) Dr. George C. Tsokos	Walter Reed Army Institute of Research United States	7/28/00	7/27/03
* Yershov, Andrey Lvovich (S) Dr. Michael A. Dubick	U.S. Army Institute of Surgical Research Russia	10/15/01	10/14/03
Zhu, Shuren Dr. Ai J. Lin	Walter Reed Army Institute of Research US Permanent Resident	11/01/99	10/31/02
* Zollner, Gabriela Elaine Dr. James W. Jones	Walter Reed Army Institute of Research United States	4/22/02	4/21/03

*Indicates that the associate started tenure between 10/1/2001 and 9/30/2002.

(S) Associate is a Senior.

**Name/
Research Title**

October 2001 Awardees

Awardees Listed 2

Cote, Christopher K

Identification and Characterization of the Expression by Bacillus Anthracis Spores of Antigens Recognized by Antibodies to the Protective Antigen Component of Anthrax Toxin

Iversen, Johanne Birgitte

Campylobacter spp. in Aquatic Environments: Improved Isolation Methods and Response to Stress Factors

February 2002 Awardees

Awardees Listed 9

Chen, Yue-Qin

Expression and Regulation of Genes Involved in Apoptosis by Sulfur Mustards (HD) and 2-Chloroethylethyl Sulfide (CEES)

Kerchner, Michael T

Identifying Effective Pharmacological Interdiction and Treatment Options for Acute Soman Exposure: Further Refinement of a Predictive Animal Model

Lackner, Daniel F

Identification of Viral and Host Cell Factors which Contribute to Marburg Virus Pathogenesis

Miroshnikova, Olga V

Potential Inhibitors of Malaria Parasites

Mores, Christopher N

Genotypic and Phenotypic Analysis of Bunyavirus Reassortants in Iquitos, Peru

Russell, Bruce

Development of an In-Vitro Exoerythrocytic Stage of Plasmodium Vivax for Applied Studies in Malaria Drug and Vaccine Development

Swenson, Dana L

The Mechanism of Compartmentalization in Lipid Rafts During Filovirus Assembly and Budding

Warfield, Kelly L

Establishment of a Model to Examine Viral Antigens in Human Context: "Immunologically Humanized" Transgenic Mice Expressing Human MHC Class II/CD4 and MHC Class I/CD8 Receptors

Zollner, Gabriela E

Population Dynamics of Sporogony in Thailand

**Applicants Who
Received Awards 10/1/2001 - 9/30/2002
U.S. Army Medical Research and Materiel Command**

Attachment 3

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**Name/
Research Title**

June 2002 Awardees

Awardees Listed 6

Coberley, Sadie S

Use of Filovirus Specific Antibodies to Evaluate Mechanisms of Virus Neutralization and Protective Epitopes

Du, Yidong

Study on the Genes of Yersinia Pestis that Expressed Inside Macrophage

Leader, Haim N

Purification of Proteins with Macroaffinity Ligand Sponges (polyurethane immobilized ligands)

Manley, Heather

Intracellular Trafficking of a Delivery Vehicle for Antagonists of Botulinum Neurotoxin

Petrikovics, Ilona

Cyanide Determination in Biological Fluids in the Presence of Various Cyanide Antidotes: Analytical, Toxicity and Antagonism Studies

Thakur, Suman S

Synthesis/Isolation of Novel Reactivators for Treatment Against Nerve Agent Toxicity

Total Associates Listed for Lab 17

Recommended Candidates 10/1/2001 - 9/30/2002
U.S. Army Medical Research and
Materiel Command

Attachment 4

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October 2001

Z- Recommended/No Funding

TATARI, ZOHREH
Citizenship: France
Adviser: Dr. Sina Bavari
Research Field: Immunology
Research Title: Establishment of a Model of "Immunologically Humanized" Transgenic Mice Expressing Human MHC ClassII/CD4 and MHC Class/CD8 Receptors
Ph.D. Date: 1997
University of Paris VII/France

1- Recommended

HURRELBRINK, ROBERT J
Citizenship: Australia
Adviser: Dr. Peter B. Jahrling
Research Field:
Research Title: Intertypic Chimeras, Site-directed Mutagenesis and Gene Rearrangement as Molecular Genetic Approaches to Ebola Virus Vaccine Development
Ph.D. Date: 2001
Western Australia, U

A- Accepted Award (2 Applicants listed)

COTE, CHRISTOPHER K
Citizenship: United States
Adviser: Dr. Susan L. Welkos
Research Field: Bacteriology
Research Title: Identification and Characterization of the Expression by Bacillus Anthracis Spores of Antigens Recognized by Antibodies to the Protective Antigen Component of Anthrax Toxin
Ph.D. Date: 2002
U of So. Florida-Col of Medicine
Actual Starting Date: 4/29/02
Termination Date: 4/28/03

IVERSEN, JOHANNE BIRGITTE
Citizenship: Denmark
Adviser: Dr. Ladaporn Bodhidatta
Research Field: Medical Microbiology
Research Title: Campylobacter spp. in Aquatic Environments: Improved Isolation Methods and Response to Stress Factors
Ph.D. Date: 2001
Royal Vet&Agr C
Actual Starting Date: 3/11/02
Termination Date: 3/10/03

February 2002

Z- Recommended/No Funding

MON, HLA M
Citizenship: Myanmar
Adviser: Dr. Russell E. Coleman
Research Field: Entomology Parasitology
Research Title: Development of In Vitro Exoerythrocytic State of Human Malaria, Plasmodium Falciparum and Plasmodium Vivax
Ph.D. Date: 2000
Nagasaki University

Recommended Candidates 10/1/2001 - 9/30/2002
U.S. Army Medical Research and
Materiel Command

Attachment 4

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1- Recommended (4 Applicants listed)

AIT ICHOU, MOHAMMED
Citizenship: United States
Adviser: Dr. Robert G. Ulrich
Research Field: Immunology
Research Title: Transcutaneous Immunization with Recombinant Staphylococcal Enterotoxin Vaccines
Ph.D. Date: 1996
Tours, U Of

HAWASH, IBRAHIM
Citizenship: Jordan
Adviser: Dr. Sina Bavari
Research Field: Biological Sciences
Research Title: Role of Lipid Raft Microdomains in Bacterial Superantigen Pathogenicity
Ph.D. Date: 2002
Purdue University/IN

HOANG, PHUC K
Citizenship: Vietnam
Adviser: Dr. Russell E. Coleman
Research Field: Entomology
Research Title: Sporogonic Development and Influential Factors on the Vector-Plasmodial Parasites Interaction in the Field
Ph.D. Date: 2002
Liverpool, U Of

YU, CHENGGANG
Citizenship: People's Republic of China
Adviser: Dr. Jaques Reifman
Research Field: Biomathematics
Research Title: Computer Systmes for Analysis of Proteins
Ph.D. Date: 2002
University of Cincinnati/OH

A- Accepted Award (9 Applicants listed)

CHEN, YUE-QIN
Citizenship: People's Republic of China
Adviser: Dr. Peter K. Chiang
Research Field: Molecular Biology
Research Title: Expression and Regulation of Genes Involved in Apoptosis by Sulfur Mustards (HD) and 2-Chloroethylethyl Sulfide (CEES)
Ph.D. Date: 1996
Zhongshan University/China
Expected Starting Date: 7/20/02
Termination Date: 7/19/03

KERCHNER, MICHAEL T
Citizenship: United States
Adviser: Dr. Gary A. Rockwood
Research Field: Neurotoxicology
Research Title: Identifying Effective Pharmacological Interdiction and Treatment Options for Acute Soman Exposure: Further Refinement of a Predictive Animal Model
Ph.D. Date: 1988
Lehigh University/PA
Actual Starting Date: 7/01/02
Termination Date: 4/30/03

ZOLLNER, GABRIELA E		Ph.D. Date: 2001	
Citizenship:	United States	University of Greenwich/England	
Adviser:	Dr. James W. Jones	Actual Starting Date:	4/22/02
Research Field:	Entomology Parasitology	Termination Date:	4/21/03
Research Title:	Population Dynamics of Sporogony in Thailand		

Recommended Candidates 10/1/2001 - 9/30/2002
U.S. Army Medical Research and
Materiel Command

Attachment 4

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W- Withdrew after Review/Recommend

AYALA-SILVA, TOMAS
Citizenship: United States
Adviser: Dr. Carmen M. Arroyo
Research Field: Biophysical Chemistry
Research Title: A Novel Multiple Therapeutical Approach (MTA) for the Development of a Candidate Topical Skin Protectant (TSP)
Ph.D. Date: 2001
Alabama Agricultur & Mechanical U

June 2002

Z- Recommended/No Funding

MARINER, JENNIFER
Citizenship: United States
Adviser: Dr. Sina Bavari
Research Field: Molecular Immunology
Research Title: Role of Cholesterol-Rich Lipid Raft Microdomains in Bacterial Superantigen Toxicity
Ph.D. Date: 2002
George Washington University/DC

A- Accepted Award (6 Applicants listed)

COBERLEY, SADIE S
Citizenship: United States
Adviser: Dr. Michael Hevey
Research Field: Viral Immunology
Research Title: Use of Filovirus Specific Antibodies to Evaluate Mechanisms of Virus Neutralization and Protective Epitopes
Ph.D. Date: 2002
University of Florida
Actual Starting Date: 7/29/02
Termination Date: 7/28/03

DU, YIDONG
Citizenship: People's Republic of China
Adviser: Dr. Luther E. Lindler
Research Field: Medical Microbiology
Research Title: Study on the Genes of Yersinia Pestis that Expressed Inside Macrophage
Ph.D. Date: 2002
Umea, Univ Of
Expected Starting Date: 9/03/02
Termination Date: 9/02/03

LEADER, HAIM N
Citizenship: Israel
Adviser: Dr. Richard K. Gordon
Research Field: Biochemical Pharmacology
Research Title: Purification of Proteins with Macroaffinity Ligand Sponges (polyurethane immobilized ligands)
Ph.D. Date: 1970
Hebrew Univ of Jerusalem/Israel
Actual Starting Date: 11/04/02
Termination Date: 5/03/03

MANLEY, HEATHER
Citizenship: United States
Adviser: Dr. Michael Adler
Research Field: Neuropharmacology
Research Title: Intracellular Trafficking of a Delivery Vehicle for Antagonists of Botulinum Neurotoxin
Ph.D. Date: 2002
Mayo Graduate School/MN
Actual Starting Date: 9/09/02
Termination Date: 9/08/03

Recommended Candidates 10/1/2001 - 9/30/2002
U.S. Army Medical Research and
Materiel Command

Attachment 4

11/27/2002 Page 5 of 5

PETRIKOVICS, ILONA
Citizenship: United States
Adviser: Dr. Steven I. Baskin
Research Field: Toxicology
Research Title: Cyanide Determination in Biological Fluids in the Presence of Various Cyanide Antidotes:
Analytical, Toxicity and Antagonism Studies
Ph.D. Date: 1985
Debrecen U Med
Expected Starting Date: 9/03/02
Termination Date: 9/02/03

THAKUR, SUMAN S
Citizenship: India
Adviser: Dr. Bhupendra P. Doctor
Research Field: Biological Chemistry
Research Title: Synthesis/Isolation of Novel Reactivators for Treatment Against Nerve Agent Toxicity
Ph.D. Date: 2002
University of Delhi/India
Expected Starting Date: 10/01/02
Termination Date: 9/30/03

8- Declined

HOWARD, ELLEN M
Citizenship: United States
Adviser: Dr. John H. Carra
Research Field: Biophysics
Research Title: Biophysics of Structure and Function in the VP40 Proteins of Ebola and Marburg Viruses
Ph.D. Date: 2002
Georgetown University/DC

W- Withdrew after Review/Recommend (3 Applicants listed)

CAHILL, KEVIN E
Citizenship: United States
Adviser: Dr. David E. Lanar
Research Field: Molecular Biophysics
Research Title: Protein Folding
Ph.D. Date: 1967
Harvard University/MA

CHAWLA, NITESH V
Citizenship: India
Adviser: Dr. Jaques Reifman
Research Field: Biomathematics
Research Title: Physiologic Database Mining to Reduce Military Casualty Mortality and Morbidity
Ph.D. Date: 2002
University of South Florida

TRUTSCHL, MARJAN
Citizenship: Slovenia
Adviser: Dr. Jaques Reifman
Research Field: Biomathematics
Research Title: Visualization and Analysis Tools to Support Bioinformatics and Biomedical Computational Needs
Ph.D. Date: 2002
University of Mass-Lowell

**On Tenure Report
by Quarter and Center**

**For the year starting
October 1, 2001**

Attachment 5
11/27/2002 Page 1 of 1

U.S. Army Medical Research and Materiel Command

Center	Number of Associates on tenure as of					
	10/1/00	10/1/01	1/1/02	4/1/02	7/1/02	10/1/02
U.S. Army Institute of Surgical Research	2	5	5	5	4	4
U.S. Army Medical Research Institute of Chemical Defense	4	3	2	2	1	2
U.S. Army Medical Research Institute of Infectious Diseases	15	13	11	11	15	15
U.S. Army Research Institute of Environmental Medicine	3	1	1	1	1	1
Walter Reed Army Institute of Research	20	24	23	22	22	16
	44	46	42	41	43	38

[r_tenure_by_quarter]

U.S. Army Medical Research and Materiel Command

Allon, Nahum

8/01/2000 3/06/2002

- 2 A plasmid containing human butyrylcholinesterase gene was successfully encapsulated in small unilamellar liposomes (150-200nm) with high efficiency (>60%). The encapsulated liposomes were purified from the non encapsulated DNA.
- 4 Fusion peptides were designed synthesized and tested in in-vitro and in-vivo system. The fusion peptides are designed to change their conformation due to changes in the pH and thus disrupt the endosomal membrane and release the plasmid.
- 6 Six targeting peptides for lung cells were designed and tested for their selectivity to various lung cell lines.
- 8 Various linkers for the conjugation between the peptides and the liposomes were tested. The direct linkage to the phospholipid was finally adopted for further research.
- 10 An animal model using an otoscopic intra-tracheal instillation of liposomes containing plasmid were tested and adopted for the in-vivo testing of the delivery system.

Darko, Christian Asare

11/09/1998 5/08/2002

- 1 By PCR method, Plasmodium falciparum FVO MSP-1(42) gene was cloned into an E. coli expression vector. DNA sequencing confirmed that the clone chosen for further studies is wild type. Expression of FVO MSP-1(42) gene was confirmed by Western blot.
- 2 Fermentation and purification conditions acceptable for human use were developed in the lab and transferred to the Dept. of Biologics, WRAIR, where the protein was produced and vialled. The protein was more than 95% pure by Coomassie blue stain gel.
- 3 The protein was highly immunogenic in mice and rabbits. Rabbit sera raised against FVO MSP-1(42) were inhibitory against P. falciparum growth in vitro.
- 4 In a vaccine trial conducted in CDC (Atlanta), Aotus monkeys were immunized separately with FVO MSP-1(42) or 3D7 MSP-1(42) and challenged with an erythrocytic stage FVO strain. The former was found to be highly protective while the latter was not.
- 5 A new construct of FVO MSP-1(42) gene has been made by synonymous mutation. This enhances expression and solubility of the protein. About 200-fold increase in expression has been achieved so far. This is due to enter GMP production this month.

Dekonenko, Alexander Evgenievich

11/02/1998 11/01/2001

- 1 Conditions of large scale hantavirus recombinant proteins production in procaryotic system and subsequent purification have been optimized.
- 3 Recombinant proteins have been shown useful for development of diagnostic assay that can be easily utilized in field condition for early diagnosis of hemorrhagic fever with renal syndrome.

U.S. Army Medical Research and Materiel Command

Dillman, James F., III

11/29/1999 4/19/2002

- 2 Exposure of cultured human epidermal keratinocytes (HEK) to sulfur mustard (SM) results in significant changes in protein. expression
- 3 Exposure of HEK to SM results in the activation of stress response pathways involved in inflammation.
- 4 Pharmacologic inhibition of these stress response pathways attenuates the SM-induced inflammatory response.
- 5 Exposure of HEK to SM results in the perturbation of proteins involved in cytoskeletal maintenance.

Dow, Geoffrey Stuart

8/07/2000 8/06/2002

- 1 Global expression changes measured by microarrays suggested mitochondrial electron transport, phosphoinositol metabolism and DNA repair may be neuronal targets of antimalarial endoperoxides.
- 2 Antimalarial endoperoxides were found to inhibit electron transport at the level of cytochrome oxidase at high concentrations, but RT-PCR could not confirm unequivocal regulation of mitochondrial genes by arteether in neuronal cells.
- 3 A power simulation utilizing published array data and novel p-value correction methods was used to determine theoretical false discovery rates and assess adequate sample sizes in required for variance-based analysis of microarray data.
- 4 At appropriate sample sizes, using RT-PCR to validate microarray data, and conventional antimalarial drugs as control compounds, actual false discovery rates were found to be comparable to theoretical error rates.
- 5 Transcriptional changes induced by antimalarial drugs, mefloquine and arteether, were investigated in neuronal cells using optimized microarray statistical analysis methods.

Erwin, James Lawrence

8/10/1998 2/09/2002

- 1 Investigated the role of anthrax lethal toxin upon the expression of pro-inflammatory cytokines by macrophages.
- 2 Demonstrated that lethal toxin inhibits rather induces cytokine expression.
- 3 Demonstrated that inhibition occurs at the level of transcription and signal transduction.

U.S. Army Medical Research and Materiel Command

- 4 Characterized the effect of anthrax lethal toxin upon signal transduction in macrophages.
- 5 Characterized the response of toxin-resistant macrophages to infection by B. anthracis as compared to toxin-sensitive macrophages.

Grogan, Case Kyn

6/26/2000 8/09/2002

- 1 Carried out a guinea pig vaccine protocol using the VEE-replicon protein expression system as a vaccine vector to test chimeric Ebola/Marburg glycoproteins (GP) as protective antigens against Ebola virus and Marburg virus.
- 2 Results obtained using Marburg/Ebola chimeric GP proteins indicated that glycoprotein protective epitope(s) resides within the GP2 subunit of the MBGV GP protein and at least partially within the GP2 subunit of the EBOV GP protein.
- 3 Cloned VEE replicons containing alternative chimeric Ebola and Marburg GP genes, with smaller portions of the GP2 region swapped between Ebola and Marburg GP genes, in order to narrow down the location of protective epitopes in the GP2 subunit.
- 4 Cloned VEE-replicons expressing the GP2 portion of either Ebola or Marburg GP protein in order to further investigate protective epitopes within the GP2 portion of GP for each virus. Live-virus challenge experiments are currently underway.
- 5 Carried out collaborations with two different research groups regarding: effect of live Marburg and Ebola virus infection on the activation of cultured dendritic cells; binding specificity of live Ebola and Marburg virus on multiple cell types.

Guerrero-Ontiveros, Maria de Lourdes

2/16/1999 8/13/2002

- 1 Used Transposon TnphoA mutagenesis to identify potential Yersinia pestis genes which contribute to plague pathogenesis.
- 2 Screened the TnphoA fusions in Y. pestis KIM5 for temperature regulated membrane-bound or secreted proteins.
- 3 Identified nine thermoregulated chromosomal and plasmid genes encoding transmembrane and periplasmic proteins, five of them of unknown function.
- 4 Investigated the effect these phoA mutants may have on virulence in a macrophage infection assay.
- 5 Initiated the characterization of the function of one up-regulated, temperature-sensitive gene product designated ORF60.

U.S. Army Medical Research and Materiel Command

Heller, Elimelech Dan

10/02/2000 10/01/2001

- 1 The purpose of this project was to identify virulence genes in the rabbit enteropathogenic Escherichia coli strain O15:H-(RDEC-1) large plasmid and to examine their identity to the humans pMAR2 plasmid.
- 3 The plasmids from previously tagged with Tn5 transposons strains (provided by Dr. Wolf) were digested with restriction enzymes BamH I or Hind III and ligated with the multicopy plasmid pUC18. The products were transfected into E coli competent strain.
- 5 Colonies showing resistance to Ampicillin (provided by the pUC18) and Kanamycin (provided by the Tn5) were selected. Their plasmids were isolated, and tested to show a DNA fraction after BamH I or Hind II digestion the size of pUC18.
- 7 Universal primers were used to start sequencing the large plasmids from 2 of the isolated colonies. According to the results primers were planned for further sequencing.
- 9 Our results indicated that M36-4 showed an alignment (98%) with parts of pB171, the large plasmid of the human EPEC B171-8 strain.

Kan, Robert Kwai

5/10/1999 11/02/2001

- 1 Tested 13 human antibodies to basement membrane proteins for cross reactivity to hairless guinea pig skin. Of these antibodies tested, alpha 6 integrin, laminin, collagen type IV, collagen type VII and plectin were cross-reactive.
- 2 Alpha6 integrin was consistently found to be reduced as early as 6 hours after sulfur mustard exposure. This observation suggests that reduction in alpha6 integrin immunoreactivity is a good bioindicator of sulfur mustard-induced skin damage.
- 3 Established that apoptosis is a mechanism of epidermal basal cell death following sulfur mustard intoxication.
- 4 Immunohistochemical studies on sulfur mustard exposed human breast skin explants indicated alpha6 integrin immunoreactivity was reduced, again indicating that HD induced alterations of alpha6 integrin is the pathogenic factor blister formation.
- 5 ELISA studies on interleukin 1 beta, interleukin 6, interleukin 8, and tumor necrosis factor alpha expression following HD exposure were inconclusive.

Leon Villalba, Luis Renato

5/25/2000 11/24/2001

- 1 DNA sequencing of RT-PCR products can be used for a faster identification of arboviruses isolated in the AB, however its accuracy is dependent on the availability of primers to virus families and virus DNA sequences published in GenBank.
- 2 Degenerate primers to the Flaviviridae YF1, YF3 (Tanaka, 1993), MA, cFD2 (Kuno, 1998) were evaluated and used to group arbovirus isolates into 4 groups matching with GenBank sequences of Ilheus, SLE, JE, and dengue viruses.

U.S. Army Medical Research and Materiel Command

- 3 Primers to the Bunyaviridae BUN+, BUN-, CH58, CH59 were tested with +40 arboviruses. None of the viruses were recognized by CH58, CH59 primers. The PCR products obtained from RT-PCR using BUN+/- were not adequate for sequencing.
- 4 More DNA sequences from arboviruses isolated in the AB are needed to develop primers for the SA Bunyaviridae group of viruses. The North American Bunyavirus primers used did not provide PCR products suitable for DNA sequencing.
- 5 Antisera (HMAF and MABs) specific for alphaviruses (SLK 42), bunyaviruses (R2968, PE00492) and flaviviruses (4G2) were tested and evaluated using FA (spotslides). SLK 42 and 4G2 can be used to group arbovirus isolated in the AB.

Liu, Liang Ming

4/08/1999 10/07/2001

- 1 Hemorrhagic hypotension at 50 mmHg for 60 or 90 min induced an apparent systemic and regional vascular hyporesponsiveness [superior mesenteric (SMA), left renal (LRA), celiac (CA) and left femoral (LFA) arteries].
- 3 Different vasculatures did not respond the same to the hemorrhage insult. Vascular reactivity in the CA and LFA was reduced most in response to hemorrhage. Their vascular responsiveness was reduced sooner and more severely than that of SMA and LRA.
- 5 Increased mRNA expression of iNOS, eNOS, ET-1, IL-6 and TNF- α in liver, kidney, intestine and skeletal muscle following hemorrhagic hypotension was significantly correlated with the decreased vascular reactivity of the observed vasculatures.
- 7 Pretreatment with NO synthase inhibitor, L-NAME or ET receptor antagonist, PD142893 reduced the mRNA expression of cytokines mentioned above and restored the decreased systemic and regional vascular reactivity induced by hemorrhagic shock.
- 9 Hypotensive resuscitation to 70 mmHg with colloids was better than crystalloids in improving the hemorrhagic shock-induced vascular hyporeactivity. Normotensive resuscitation with lactated Ringers was not better than hypotensive resuscitation.

Milosevits, Janos

7/03/2000 7/02/2002

- 1 Analysis of squalene reacting monoclonal mouse antibodies.
- 2 Detecting of squalene reacting natural antibodies in healthy and polyvaccinated humans by FACS.
- 3 Analysis of crossreactivity of squalene reacting antibodies.
- 4 Heat dependence binding of natural antibodies to squalene containing liposomes.

U.S. Army Medical Research and Materiel Command

- 5 analysis of rat and pig granulocyte oxidative burst, effected by liposomes.

Peng, Daizhi

1/05/1999 5/04/2002

- 1 Culture directed antibiotics have obvious therapeutical effects on burn wound sepsis rats within 3 days postburn.
- 2 The selection and dose of cultured antibiotics have influence on the efficacy of delayed antimicrobial therapy in burn wound sepsis.
- 3 Delayed piperacillin treatment mimic the clinical scenario where indicated antibiotic therapy is given and some patients still die of infection and organ dysfunction.
- 4 PDTC (NF-kB inhibitor) has no effect on the survival of sepsis rats in delayed piperacillin treatment, this might be related to the decreased serum level of IL-1 beta.
- 5 HMG-1 may be used as helpful markers of infection, tissue injury and inflammation.

Riemenschneider, Jenny Lynn

3/01/2000 7/19/2002

- 1 Baculovirus derived Ebola virus glycoproteins are partially protective in guinea pigs.
- 2 DNA vaccinated followed by protein boosts with Ebola virus glycoprotein is partially protective in guinea pigs.
- 3 DNA encoding the protective antigen of Anthrax is protective against spore challenge in a rabbit model.
- 4 DNA encoding the structural proteins of Venezuelan equine encephalitis virus is protective against infection in guinea pig.
- 5 DNA antigens from multiple infectious agents can be combined in a vaccine without decreased efficacy.

U.S. Army Medical Research and Materiel Command

Roberson, Melinda Rice

5/02/2000 5/31/2002

- 1 180 animals exposed to low-level sarin doses or saline (controls). Animals examined for signs of sarin intoxication, body temp, weight, EEG and general activity, and flinch threshold during the exposure period, and 3, 10, 30 and 100 days post-exposure.
- 2 Low-level sarin exposure results in a dramatic reduction of red blood cell (RBC) cholinesterase (ChE) activity in both the 0.2 LD50 and 0.4 LD50 groups (<40% and <20% of baseline, respectively), as compared to controls.
- 3 Significant reduction in brain CHE activity in the six brain regions examined in the 0.4 LD50, but not in the 0.2 LD50, sarin animals, compared to controls. There was a steady return to baseline by 100 days post-exposure in both RBC and brain ChE.
- 4 Significant increases in activity (total distance traveled and center time) in the 0.4 animals, and in rearing in both the 0.2 & 0.4 animals at 100 days post-exposure. A mild trend toward increased flinch threshold in exposed animals was observed.
- 5 No change in body weight or temperature (pre- and post-injection), or in stereotypical behavior at any time point examined. No sarin-related change in EEG activity during the exposure period; the analysis of post-exposure EEG records is ongoing.

Troyer, Jill Michelle

1/04/1999 1/03/2002

- 1 Completed SAGE analysis of Aedes aegypti midguts.
- 2 Completed comparative study of attenuation of a dengue vaccine candidate in the mosquito model.

Yuan, Huijun

4/09/2001 3/31/2002

- 1 cDNA encoding 583-amino-acid mature bovine AChE was amplified and cloned into TA vector for sequencing.
- 2 Three expression plasmids pBACgus3-ACHE (9.4kb), pBACgus9-ACHE (9.6kb), and pBACgus10-ACHE(9.7kb) were constructed and confirmed the correction by sequencing.
- 3 Two expression plasmid pBACgus3-ACHE and pBACgus10-ACHE were transfected the Sf9 cells with BacVector-3000 Triple Cut Virus DNA by Eufectin Transfection Reagent.

Zhang, Peng

2/01/1999 7/31/2002

- 1 The molecular mechanism of CEES induced apoptosis was discovered. CEES can inhibit PKD1-Akt/Pkb pathway, and in turn to inhibit Bcl family expression and stimulate caspases expression.

U.S. Army Medical Research and Materiel Command

- 2 A genomic DNA fragment, which contain promoter region of human GST1, GSTa1, were cloned and finished DNA sequencing analysis.
- 3 A series inhibitors of caspases were designed to synthesis based on the structure of human caspase 3, and the activators were designed to synthesis based on malaria caspase structure. Human caspase 3 was overexpressed in E coli system.
- 4 A novel apoptosis related gene, methionine aminopeptidase (MetAP), was cloned from malaria species. DNA sequencing of *P. falciparum* MetAP and *P. bergheii* MetAP were finished.
- 5 The noval apoptosis inhibitors, IAPs, were cloned from malaria species.

Termination Report Summary

U.S. Army Medical Research and Materiel Command For Associates Who Ended Tenure Between

10/1/2001 and 9/30/2002

11/27/2002 Page 1 of 3
[r_term_summary]

Name	Start/Term Dates		Mnths*	Journal Articles	Dom/Intl Presentations		Awrds	Post-Tenure Plans				Rsch	Colleg	Think	Sci A
	T Rpt Recd	A Rpt Recd			Career/Long/Short**	Lab		NRC	Patents	Know	Tech				
Allon, Nahum	8/01/00	3/06/02	14	-	1	-	-	5	5	5	5	Y			
	7/31/01	7/31/01		10	10	10									
Babai, Ilan	7/17/00	7/16/02	24												
Cohen, Sara	8/02/01	8/01/02	12												
Darko, Christian Asare	11/09/98	5/08/02	42	-	-	-	-	1							
	5/16/02			10	10	9	9								
Dekonenko, Alexander Evgenievit	11/02/98	11/01/01	36	-	-	6		-							
			10		6	10		PostDoc							
Dillman, James F., III	11/29/99	4/19/02	29		5										
	4/30/02			8	9	9	9								
Dow, Geoffrey Stuart	8/07/00	8/06/02	24	-	4	1	-	-							
	7/26/02			8	8	5		Remain at Host Agency as contract/temp employee							
Erwin, James Lawrence	8/10/98	2/09/02	42	1	4	-	1	-	5	5	4	4	Y	5	5
	3/04/02	2/25/02		9	9	8	8								
								Remain at Host Agency							
Grogan, Case Kyn	6/26/00	8/09/02	25	1	2	-	2	1							
	8/06/02			10	10	10		Other							
Guerrero-Ontiveros, Maria de Lou	2/16/99	8/13/02	42	-	-	1	-	-	1	2	1	1	N	1	1
	9/12/02	10/18/02		8	9	8	10								
								Research Position at Foreign Govt Lab							
Heller, Elimelech Dan	10/02/00	10/01/01	12	-	1	1		-							
	9/25/01			9	9	9		College or University Professor							
Kan, Robert Kwai	5/10/99	11/02/01	30	1	3	-		1	5	5	5	5	Y		
	12/12/01	12/12/01		10	10	10		Remain at Host Agency							
Leon Villalba, Luis Renato	5/25/00	11/24/01	18	-	-	-		-							
	11/20/01			9	8	10		College or University Professor							
Liu, Liang Ming	4/08/99	10/07/01	30	-	2	-		-							
	9/10/01			10	9	10		Research - National government (US or Foreign)							

* "Mnths" reflects the actual months the Associate was on Tenure accounting for leave of absences, etc. between the first award date and final termination date.

**Beginning in year 2001 Associates were asked to assess both long and short term value to career.

Termination Report Summary

U.S. Army Medical Research and Materiel Command For Associates Who Ended Tenure Between

10/1/2001 and 9/30/2002

11/27/2002 Page 2 of 3
[r_term_summary]

Name	Start/Term Dates	Mnths*	Journal Articles	Dom/Intl Presentations	Awrds	Patents	Know	Tech	Motiv	Rsch	Colleg	Think	Sci A
Post-Tenure Plans													
T Rpt Recd	A Rpt Recd	Career/Long/Short**	Lab	NRC									
Mitosevits, Janos	7/03/00 7/02/02	24 1	5 5	5 5	- -	- -	- -	- -	- -	- -	- -	- -	- -
Research Position at Foreign Govt Lab													
Peng, Daizhi	1/05/99 6/04/02	5/04/02 7/31/02	40 10	10 10	- -	- -	4 10	4 10	5 10	4 10	5 10	Y 5	5 5
Research/Teaching at Foreign College/Univ													
Riemenschneider, Jenny Lynn	3/01/00 7/09/02	7/19/02 -	29 10	10 10	- -	- -	1 10	1 10	1 10	1 10	1 10	1 10	1 10
Research - National government (US or Foreign)													
Roberson, Melinda Rice	5/02/00 6/03/02	5/31/02 -	25 10	10 10	- -	- -	- 8	- 8	- 8	- 8	- 8	- 8	- 8
Remain at Host Agency													
Troyer, Jill Michelle	1/04/99 4/04/02	1/03/02 4/23/02	36 7	7 7	- -	- -	1 10	1 10	5 10	5 10	5 10	Y 5	5 5
Remain at Host Agency as contract/temp employee													
Yuan, Huijun	4/09/01 3/15/02	3/31/02 -	12 9	9 9	- -	- -	- 9	- 9	- 9	- 9	- 9	- 9	- 9
Industry													

* "Mnths" reflects the actual months the Associate was on Tenure accounting for leave of absences, etc. between the first award date and final termination date.
**Beginning in year 2001 Associates were asked to assess both long and short term value to career.

Termination Report Summary

U.S. Army Medical Research and Materiel Command For Associates Who Ended Tenure Between

10/1/2001 and 9/30/2002

Name	Start/Term Dates	Mnth*	Journal Articles	Dom/Intl Presentations	Awrds	Patents	Know	Tech	Motiv	Rsch	Colleg	Think	Sci A
T Rpt Recd	A Rpt Recd		Career/Long/Short**	Lab	NRC	Post-Tenure Plans							
Zhang, Peng	2/01/99 7/31/02	7/31/02 8/13/02	42 3	9 9	2 10	-	5	5	5	5	Y	5	5
Remain at Host Agency as contract/temp employee													

Totals for: AMRMC

Date Calculations		From Assoc Report		From Adviser Report		Summary of Post Tenure Plans	
		Totals	Average	Totals	Average		
Average:	28	Total	18	Total	7	Remain at Host Agency	3
Max:	42	Jrnl Art	7	Knowledge	30	College or University Professor	2
Min:	12	Domestic	38	Technique	31	PostDoc	1
Std Dev:	10	International	11	Motivation	30	Other	1
		Patents	4	Independence	29	Industry	1
		Awards	3	Inovative/Thinking	21	Remain at Host Agency as contract/temp employee	5
				Scientific Ability	21	Research Position at Foreign Govt Lab	2
						Research/Teaching at Foreign College/Univ	1
						Research - National government (US or Foreign)	3
						Totals:	19

Number of Terminated Assocs: 21

* "Mnth*" reflects the actual months the Associate was on Tenure accounting for leave of absences, etc. between the first award date and final termination date.
 **Beginning in year 2001 Associates were asked to assess both long and short term value to career.

FINAL REPORT FORM

If you have downloaded this form, enter the information electronically.
Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME

Allon, Nahum

2) DATE

July 3, 2001

3) Program / Agency

AMRMC

or enter abbreviation
WRAIR

Lab / Center

Biochemistry

Location

Silver Spring MD

4) DATES OF TENURE

August 1, 2000 -- to -- July 31, 2001

5) NAME OF RESEARCH ADVISER

B. P. Doctor

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☒ Yes ☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.

Neurotoxicity meeting in Pucon Chile march 16-18 2001, Enzyme 2001 meeting in Orlando, Florida, May 13-18, 2001

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES List location(s) and date(s).

10) TITLE OF RESEARCH PROPOSAL

Induction of protection against Organophosphorous poisoning by liposome mediated delivery of the human Butyryl Cholinesterase gene to the lung

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.

1) A plasmid containing human butyrylcholinesterase gene was successfully encapsulated in small unilamellar liposomes (150-200nm) with high efficiency (>60%). The encapsulated liposomes were purified from the non encapsulated DNA.

2) Fusion peptides were designed synthesized and tested in in-vitro and in-vivo system. The fusion peptides are designed to change their conformation due to changes in the pH. and thus disrupt the endosomal membrane and release the plasmid.

3) Six targeting peptides for lung cells were designed and tested for their selectivity to various lung cell lines.

4) Various linkers for the conjugation between the peptides and the liposomes were tested. The direct linkage to the phospholipid was finally adopted for further research

5) An animal model using an otoscopic intra-tracheal instillation of liposomes containing plasmid were tested and adopted for the in-vivo testing of the delivery system.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

A gene delivery system based on liposomes specially formulated for targeting of lung cells was designed and formulated. The efficacy of the targeting system as well as the efficacy of the fusion peptide has been tested and its efficiency established. We are now in the process of testing and evaluating the delivery system in the in-vivo mice model. Changes are required to be



THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

National Research Council Associateship Programs

ASSOCIATESHIP PROGS
RECEIVED MAY 16 '02

FINAL REPORT

Enter information electronically in Layout view.

Return this form directly to the NRC as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name		First Name	M.I.
Darko		Christian	A
2) FORWARDING Address (to which your tax statement will be mailed)		FORWARDING Phone and E-Mail (if known)	
8510 16th Street, Apt 702, Silver Spring, MD 20910		301-319-9337/christian.darko@na.amedd.army.mil	
3) Today's Date		Dates of Tenure	
May 8, 2002		from November 9, 2002 to May 8, 2002	
4) Current Agency	Laboratory or NASA Center	Division / Branch / Directorate	
AMRMC	WRAIR	Immunology	

5) NAME OF RESEARCH ADVISER

Dr. Jeffrey Lyon

6) TITLE OF RESEARCH PROPOSAL

Requirement for replicating native structure to induce protective immunity against malaria parasites with recombinant MSP-1(42) in Aotus monkeys

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

1) By PCR method, Plasmodium falciparum FVO MSP-1(42) gene was cloned into an E. coli expression vector. DNA sequencing confirmed that the clone chosen for further studies is wild type. Expression of FVO MSP-1(42) gene was confirmed by Western blot.

2) Fermentation and purification conditions acceptable for human use were developed in the lab. and transferred to the Dept of Biologics, WRAIR, where the protein was produced and vialled. The protein was more than 95% pure by Coomassie blue stain gel.

3) The protein was highly immunogenic in mice and rabbits. Rabbit sera raised against FVO MSP-1(42) were inhibitory against P. falciparum growth in vitro.

4) In a vaccine trial conducted in CDC (Atlanta), Aotus monkeys were immunized separately with FVO MSP-1(42) or 3D7 MSP-1(42) and challenged with an erythrocytic stage FVO strain. The former was found to be highly protective while the latter was not.

5) A new construct of FVO MSP-1(42) gene has been made by synonymous mutation. This enhances expression and solubility of the protein. About 200 fold increase in expression has been achieved so far. This is due to enter GMP production this month.

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

The Aotus monkeys which were used in the vaccine trial were rechallenged on May 7, 2002 with a heterologous parasite strain. The purpose is to find out (a) the duration of immunity against the vaccine candidates and challenge & (b) Is immunity strain specific? Samples obtained during the vaccine trials in Aotus monkeys will be analyzed by ELISA, Growth Inhibition Assay and Processing Inhibition Assay. Specificity of antibodies raised against the various fragments (p33 and p19, as well EGF domains) of the MSP-1(42) [above] will be analyzed by ELISA. GMP Fermentation and purification conditions for clinical grade material of the new FVO MSP-1(42) construct are being developed in the laboratory. Large scale GMP fermentation and purification will be conducted by the Dept of Biologics, WRAIR in June and August 2002, respectively. Analyses [safety, immunogenicity, etc] of FVO MSP-1(42) vaccine will be conducted immediately following production. Clinical trials in humans will follow soon.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

N/A

b) Books, book chapters, other publications

I believe the experience gained here will pave way for many opportunities in my scientific career.

Administrative Support

9 Quality of the support you received from the federal Laboratory

9 Quality of the support you received from the NRC staff

Comments:

Except some few administrative problems I had during the first year, I think the quality of support was excellent.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT

I suggest the following:-

(1) (a) Formation of NRC Associates Association at the various laboratories (e.g. WRAIR). This will allow associates to know each other and if possible establish working relationship or collaboration for the future.

(b) Associates can get more information about life situation in the areas in which they live from other associates who may know the area better.

(c) An association for associates may help answer questions related to taxes, health insurance, etc. which may be new to associates who will be coming to the USA for the first time.

(2) More visits by the Program Headquarters to the various laboratories will be appreciated by associates, I think. At the moment, there is one per year. In the absence of a visit by the program (headquarters), meetings can be organized by the laboratory representatives to discuss issues affecting associates.

(3) More training can be achieved by researchers from developing countries around the world if information about the program are sent out to these areas. I think, more countries will be covered if associates are asked to provide list of research institutions where potential associates can be reached. A couple of days ago, I did email addresses of institutes of some countries in Africa to Dr. Judy Nyquist.

US Postal Service mailing address

Research Associateship Programs [TJ 2114]

National Research Council

2101 Constitution Avenue NW

Washington, DC 20418

n:\AO Forms

ID#

fax

202 - 334 - 2759

website

www.national-academies.org/rap

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National Research Council

1000 Thomas Jefferson Street, NW

Washington, DC 20007

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13) **PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH**

Provide complete citations: author(s), full name of journal, volume number, page number(s), year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

1. Development of "field-friendly" differential diagnostic assay for hantaviruses using recombinant proteins (in preparation)
2. Genetic similarity between Puumala viruses found in Finland and Western Siberia, and between the mitochondrial DNA of their rodent hosts, suggest a common evolutionary origin of hantaviruses. (in preparation)

14) **PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES**

Provide complete references: author(s), title, abstract/proceeding citations, meeting name and location.

International

- A.Dekonenko, V.Yakimenko, A.Ivanov, T.Dzagurova, E.Tkachenko, C.Schmaljohn. Molecular Epidemiology of hantaviruses in Russia. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 63.
- A.Dekonenko, V.Yakimenko, A.Ivanov, T.Dzagurova, E.Tkachenko, C.Schmaljohn. Genetic similarity between Puumala viruses found in Finland and Western Siberia, and between the mitochondrial DNA of their rodent hosts, suggest a common evolutionary origin of hantaviruses. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 153.
- L.Ivanov, N.Zdanovskaya, L.Yashina, A.Dekonenko, E.Tkachenko. Hantaviruses and HFRS epidemiology in Khabarovsk territory, Far Eastern Russia. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 163.
- V.Yakimenko, A.Dekonenko, M.Malkova, I.Kuzmin, A.Tantsev, T.Dzagurova, E.Tkachenko. Natural foci of hantaviruses in West Siberia. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 164.
- E.Tkachenko, T.Dzagurova, A.Dekonenko, A.Ivanov, A.Yampolskiy, R.Brudniy, C.Schmaljohn. First identified acute severe HFRS case in Russia caused by Dobrava hantavirus type and associated with Apodemus sylvaticus. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 167.
- V.Morozov, V.Roschupkin, T.Dzagurova, A.Ivanov, A.Dekonenko, E.Tkachenko. Changing pattern of HFRS: clinical course on the basis of the incidence analysis in Samara region. Abstracts of the 5th International Conference on HFRS, HPS, and Hantaviruses, 13-16 June, 2001, Annecy, France. p. 201.

Domestic

15) **PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH**

Provide titles, inventors, and dates of applications.

16) **NEW POSITION STATUS / CATEGORY** Please indicate only one.

- | | |
|---|--|
| <input type="checkbox"/> Remain at Host Agency as Perm Employee | <input type="checkbox"/> Research/Teaching at US College/University |
| <input type="checkbox"/> Remain at Host Agency as Contract/Temp Employee | <input type="checkbox"/> Research/Teaching at Foreign College/University |
| Abbreviate Host Laboratory/Center _____ | <input type="checkbox"/> Research/Admin Position in Industry |
| <input type="checkbox"/> Research Position at Another US Govt. Laboratory | <input type="checkbox"/> Research/Admin in Non-Profit Organization |
| <input type="checkbox"/> Administrative Position at US Govt. Laboratory | <input checked="" type="checkbox"/> Postdoctoral Research |
| <input type="checkbox"/> Research Position at Foreign Govt. Laboratory | <input type="checkbox"/> Self Employed <input type="checkbox"/> Other Please specify _____ |

17) **NEW POSITION TITLE AND NAME OF ORGANIZATION**

Post doctoral position, University of New Mexico, Albuquerque, NM

18) **FORWARDING ADDRESS** (to which your tax statement will be mailed)

FINAL REPORT

Enter information electronically in Layout view.

Return this form directly to the NRC as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name		First Name	M.I.
Dillman III		James	F
2) FORWARDING Address (to which your tax statement will be mailed)		FORWARDING Phone and E-Mail (if known)	
4344 Horner Lane Belcamp, MD 21017		410-272-5481	
3) Today's Date		Dates of Tenure	
April 19, 2002		from November 29, 1999 to April 19, 2002	
4) Current Agency	Laboratory or NASA Center	Division / Branch / Directorate	
AMRMC	USAMRICD	Applied Pharmacology Branch	

5) NAME OF RESEARCH ADVISER

John J. Schlager, Ph.D.

6) TITLE OF RESEARCH PROPOSAL

Proteomic Analysis of Sulfur Mustard Toxicity

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Exposure of cultured human epidermal keratinocytes (HEK) to sulfur mustard (SM) results in significant changes in protein expression.
- 2) Exposure of HEK to SM results in the activation of stress response pathways involved in inflammation.
- 3) Pharmacologic inhibition of these stress response pathways attenuates the SM-induced inflammatory response.
- 4) Exposure of HEK to SM results in the perturbation of proteins involved in cytoskeletal maintenance.
- 5)

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

Proteomics technologies are being employed to identify and characterize the molecular and cellular response of human epidermal keratinocytes to the toxic effects of sulfur mustard exposure. It is expected that these studies will result in the identification and characterization of alterations in protein expression levels, post-translational modifications of proteins, and protein function in response to HD exposure. The analytical techniques that comprise the emerging field of proteomics are powerful tools well suited for these studies. This information will be vital in identifying the specific cellular pathways that are perturbed by HD exposure, and the specific cellular pathways that the cell utilizes to cope with exposure to HD. These results should provide significant insight into the mechanism of HD toxicity and can be applied in future research directed toward identifying potential targets for therapeutic intervention.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Cytokine release induced by sulfur mustard exposure is mediated by the p38 MAP kinase signaling pathway. Dillman III, J.F., McGary, K.L. and Schlager, J.J., in preparation.

Exposure to sulfur mustard induces the formation of keratin protein aggregates. Dillman III, J.F., McGary, K.L., and Schlager, J.J., in preparation.

10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Comments:

- 2 Long-term value: how your NRC Associateship award affected your career to date
Comments:

Administrative Support

- 2 Quality of the support you received from the federal Laboratory
2 Quality of the support you received from the NRC staff
Comments:

18) *PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT*

US Postal Service mailing address

Research Associateship Programs [TJ 2114]
National Research Council
2101 Constitution Avenue NW
Washington, DC 20418

fax

202 - 334 - 2759

website

www.national-academies.org/rap

Express Delivery address

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National Research Council
1000 Thomas Jefferson Street, NW
Washington, DC 20007

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10) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, inventors, and dates of applications.

NA

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

G.S. Dow, K.M. Kopydlowski, M. Vahey, M.E. Nau, R.K. Martin and T.H. Hudson. 2001. Microarray investigation of global gene expression changes induced in rat neuronal cell lines and primary cell cultures by artemisinin derivatives. IXth International Congress of Toxicology, Brisbane, Australia, July 8-12, 2002.

Domestic

1. Hudson, T.H., Dow, G.S., Kopydlowski, K.M., Vahey, M., Nau, M.E., Gwin, C.A. and Martin, R.K. 2000. Evaluation of Affymetrix rat toxicology U34 arrays for preliminary assessment of mammalian cell toxicity from compounds identified as promising antimalarials. Woods Hole Molecular Parasitology Meeting XI, Woods Hole MA, Sept 17-21, 2002.
2. Dow, G., Kopydlowski, K.M., Vahey, M. and Hudson, T.H. 2002. Mitochondrial enzymes as neuronal targets of artemisinin compounds. Drugs Against Tropical Protozoan Parasites: Target Selection, Structural Biology, and Rational Medicinal Chemistry. Keystone Symposium, Keystone CO, March 3-8, 2002.
3. Dow, G.S. 2002. Empirical approaches to determining adequate sample sizes and p-value correction methods for variance-based analysis of expression data. Woods Hole Molecular Parasitology Meeting XII, Woods Hole MA, Sept 22-26, 2002.

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES Include dates, names and locations of seminars.

G.S. Dow. Microarray investigation of global gene expression changes induced in rat neuronal cell lines by arteether. Invited speaker at the Australian Army Malaria Institute, Brisbane, Australia, July 10, 2001.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

None

14) NEW POSITION TITLE

Genomics Laboratory Investigator

15) NEW POSITION ORGANIZATION Provide name and address of organization.

Walter Reed Army Institute of Research

16) NEW POSITION STATUS / CATEGORY Please indicate only one.

- ☐ Remain at Host Agency as Permanent Employee
☒ Remain at Host Agency as Contract/Temporary Employee
 Abbreviate Host Laboratory/Center _____
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory

- ☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Admin Position in Industry
☐ Research/Admin in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other Please specify _____

17) APPRAISAL OF THE ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).**Your experience as a NRC Research Associate in this federal Laboratory**

- 8 Short-term value: development of knowledge, skills, and research productivity

Comments:

Provided the opportunity to acquire new skills and training not available in home country.

- 8 Long-term value: how your NRC Associateship award affected your career to date

Comments:

Facilitated career transition from small laboratory as a PhD student to a more permanent position in a world class, international research institute.

Administrative Support

- 8 Quality of the support you received from the federal Laboratory

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

National Research Council Associateship Programs

FINAL REPORT

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1) Associate Last or Family Name		First Name	M.I.
Erwin		James	L
2) FORWARDING Address (to which your tax statement will be mailed)		FORWARDING Phone and E-Mail (if known)	
6262 North Steamboat Way		301-865-6302; James.Erwin@det.amedd.army.mil	
3) Today's Date		Dates of Tenure	
March 4, 2002		from August 10, 1998 to February 9, 2002	
4) Current Agency	Laboratory or NASA Center	Division / Branch / Directorate	
	AMRMC	USAMRIID	

5) NAME OF RESEARCH ADVISER

Tran C. Chanh

6) TITLE OF RESEARCH PROPOSAL

The Subversion of Macrophages by Anthrax Lethal Toxin

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Investigated the role of anthrax lethal toxin upon the expression of pro-inflammatory cytokines by macrophages.
- 2) Demonstrated that lethal toxin inhibits rather induces cytokine expression.
- 3) Demonstrated that inhibition occurs at the level of transcription and signal transduction.
- 4) Characterized the effect of anthrax lethal toxin upon signal transduction in macrophages.
- 5) Characterized the response of toxin-resistant macrophages to infection by B. anthracis as compared to toxin-sensitive macrophages.

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

The characterization of anthrax lethal toxin's effect upon signal transduction as well as the differences in response of toxin-resistant and toxin-sensitive cells is part of an ongoing project at USAMRIID. I have begun working at USAMRIID as a contractor and will be applying for a permanent position here. My expertise in cell biology and innate immunity is leading to other collaborations at USAMRIID as well. I am not at liberty to go into any details about those, however.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

J. L. Erwin, L. M. DaSilva, S. F. Little, A. M. Friedlander, S. Bavari and T. C. Chanh. "Macrophage-derived cell lines do not express pro-inflammatory cytokines after exposure to Bacillus anthracis lethal toxin." (2001) Infection and Immunity 69:1175-1177.

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

J. L. Erwin and T. C. Chanh. "Inhibition of MAP kinase isoforms in macrophage cell lines after exposure to anthrax lethal toxin"

10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

Convince Congress, or the appropriate Federal authority, to allow NAS to pay taxes and benefits to their fellows. This will remove a major impediment.

US Postal Service mailing address

Research Associateship Programs [TJ 2114]
National Research Council
2101 Constitution Avenue NW
Washington, DC 20418

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202 - 334 - 2759

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1000 Thomas Jefferson Street, NW
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Bosio, C.M., Aman, M.J., Grogan, C., Hogan, R., Ruthel, G., Negley, D., Mohamadzaheh, M., Bavari, S., and A. Schmaljohn. 2002. Ebola and Marburg virus infections of dendritic cells undermine innate immune responses. Submitted.

Grogan, C.C., Negley, D., Geisbert, J., Schmaljohn, A.L., and M. C. Hevey. 2002. Chimeric Ebola/Marburg glycoproteins expressed from an Alphavirus replicon as a vaccine approach indicate protective epitopes in the GP2 subunit. In preparation

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

Prepared final patent application, filed by Pratt and Associates, Inc., Potomac, MD, on behalf of USAMRIID 31 January 2002: Chimeric Ebola/Marburg Glycoprotein as a Vaccine For Filoviruses, Case C. Grogan, Michael C. Hevey, and Alan L. Schmaljohn. (PCT/US02/03339 filed 1/31/02 Entitled "Chimeric Filovirus Glycoprotein")

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

Chimeric Ebola/Marburg glycoproteins expressed from an Alphavirus replicon as a vaccine approach. Case C. Grogan, Mike C. Hevey, Steve Harrison, Diane Negley, Joan Geisbert, and Alan L. Schmaljohn

1. Oral presentation made at the 20th Annual Meeting for the American Society for Virology, Madison, WI, July 21-25, 2001.
2. Poster presentation at the NCI-Ft. Detrick Spring Research Festival, Frederick, MD, May 16-17, 2001.

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* Include dates, names and locations of seminars.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

1. American Society for Virology Joel M. Dalrymple Memorial Award for Outstanding Presentation of Research, 20th Annual American Society for Virology meeting, Madison, WI, July 2001
2. National Cancer Institute -Frederick/Ft. Detrick Spring Research Festival poster presentation award winner, May, 2001

14) *NEW POSITION TITLE*

no position determined yet

15) *NEW POSITION ORGANIZATION* Provide name and address of organization.

currently job hunting in new home location (relocating for spouse)

16) *NEW POSITION STATUS / CATEGORY* Please indicate only one.

- ☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
Abbreviate Host Laboratory/Center _____
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory

- ☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Admin Position in Industry
☐ Research/Admin in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☒ Other Please specify nd

17) *APPRAISAL OF THE ASSOCIATESHIP PROGRAM* Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a NRC Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity

Comments:

My NRC tenure has provided me excellent opportunities to learn and develop new research skills/techniques that I will use in my future work.

10 Long-term value: how your NRC Associateship award affected your career to date

FINAL REPORT

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1) Associate Last or Family Name		First Name	M.I.
Guerrero-Ontiveros		Maria de Lourdes	
2) FORWARDING Address (to which your tax statement will be mailed)		FORWARDING Phone(s) and E-Mail (if known)	
Ruperto L. Paliza No. 640 Sur. Culiacan, Sin. 80200 Mexico		Phone: 52/6677/16 35 80 Phone: 52/6677/16 62 19 E-mail: lourdesgo@hotmail.com	
3) Today's Date		Dates of Tenure	
September 11, 2002		from February 15, 1999 to August 14, 2002	
4) Agency	Laboratory or NASA Center	Division / Branch / Directorate	
AMRMC	WRAIR	CD&I	

5) NAME OF RESEARCH ADVISER

Dr. Luther L. Lindler

6) TITLE OF RESEARCH PROPOSAL

Regulation of the Expression of Pathogenic *Yersinia pestis* During intracellular Association with Macrophages

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Used Transposon TnphoA mutagenesis to identify potential *Yersinia pestis* genes which contribute to plague pathogenesis
- 2) Screened the TnphoA fusions in *Y. pestis* KIM5 for temperature regulated membrane-bound or secreted proteins
- 3) Identified nine thermoregulated chromosomal and plasmid genes encoding transmembrane and periplasmic proteins, five of them of unknown function
- 4) Investigated the effect these phoA mutants may have on virulence in a macrophage infection assay
- 5) Initiated the characterization of the function of one up-regulated, temperature-sensitive gene product designated ORF60

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

To understand the role of genes involved in plague pathogenesis, I investigated *Y. pestis* by random transposon TnphoA mutagenesis. This approach has led to the discovery of important virulence factors in Gram-negative bacteria, including *Salmonella*, enteroinvasive *E. coli*, and *Vibrio cholerae*. We have identified nine thermoregulated genes, five of them of unknown function. Alkaline phosphatase activity values and Western blot analysis confirmed differential regulation of the PhoA protein fusions at 26C versus 37C. We have identified two pCD1 plasmid TnphoA insertions that appeared to be lethal at 37C; one in YopD, a virulence factor up-regulated at 37C, the second in a hypothetical protein designated Orf60, which is located downstream to YopM. The results suggest that Orf60 (the counterpart of *Y. pestis* CO92 YPCD1.23) is a transmembrane protein, which is expressed and upregulated at 37C. Characterization of the function of Orf60 is currently in progress.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Identification of thermoregulated genes in *Yersinia pestis* using TnphoA mutagenesisIsolation and characterization of Orf60, a thermoregulated, pCD-encoded *Yersinia pestis* protein

10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

FINAL REPORT FORM

If you have downloaded this form, enter the information electronically.
Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME

Heller, Elimelech Dan

2) DATE

September 24, 2001

3) Program / Agency

or enter abbreviation

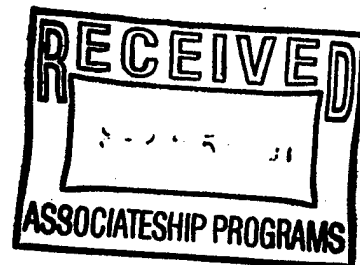
Lab / Center

Location

AMRMC

Enteric Diseases

WRAIR



4) DATES OF TENURE

October 1, 2000 -- to -- September 30, 2001

5) NAME OF RESEARCH ADVISER

Dr. M.K. Wolf

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☒ Yes ☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.

Domestic : Cornell University, Ithaca, NY.

Foreign: Beer-Sheva, Israel. Meeting of the Immunology Society

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES List location(s) and date(s).

WRAIR, September 19, 2001

10) TITLE OF RESEARCH PROPOSAL

Search for a common virulence genes in human and rabbit enteropathogenic Escherichia coli

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.)
Utilize concepts and key words.

1) The purpose of this project was to identify virulence genes in the rabbit enteropathogenic Escherichia coli strain O15:H- (RDEC-1) large plasmid and to examine their identity to the human pMAR2 plasmid.

2) The plasmids from previously tagged with Tn5 transposons strains (provided by Dr. Wolf) were digested with restriction enzymes BamH I or Hind III and ligated with the multicopy plasmid pUC18. The products were transfected into E coli competent strain

3) Colonies showing resistance to Ampicillin (provided by the pUC18) and Kanamycin (provided by the Tn5) were selected. Their plasmids were isolated, and tested to show a DNA fraction after BamH I or Hind II digestion the size of pUC18.

4) Universal primers were used to start sequencing the large plasmids from 2 of the isolated colonies. According to the results primers were planned for further sequencing.

5) Our results indicated that M36-4 showed an alignment (98%) with parts of pB171, the large plasmid of the human EPEC B171-8 strain.

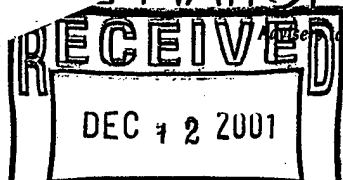
12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

Only part of the rabbit enteropathogenic Escherichia coli large plasmid was sequenced, further sequencing and functional assessment should be followed

NATIONAL ACADEMIES

the Nation on Science, Engineering, and Medicine

National Research Council
Associateship Programs



FINAL REPORT

Enter information electronically in Layout view.

ASSOCIATESHIP PROGRAMS form directly to the NRC as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name Kan		First Name Robert	M.I. K
2) FORWARDING Address (to which your tax statement will be mailed) 311J Tall Pines Court, Abingdon MD 21009		FORWARDING Phone and E-Mail (if known) 410-436-6503	
3) Today's Date December 6, 2001		Dates of Tenure from May 1, 1999 to November 2, 2001	
4) Current Agency AMRMC	Laboratory or NASA Center MRICD	Division / Branch / Directorate Comparative Medicine/Comparative Pathology	
5) NAME OF RESEARCH ADVISER Dr. John Petrali			

6) TITLE OF RESEARCH PROPOSAL

Immunohistochemical and Ultrastructural Characterization of Distribution of Skin Basement Membrane Zone Proteins, Cytokines and Matrix Metalloproteases in Hairless Guinea Pig Skin and Human Breast Explants Following Sulfur Mustard Toxicity

7) SUMMARY OF RESEARCH DURING TENURE

Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Tested 13 human antibodies to basement membrane proteins for cross reactivity to hairless guinea pig skin. Of these antibodies tested, alpha 6 integrin, laminin, collagen type IV, collagen type VII and plectin were cross-reactive.
- 2) Alpha6 integrin was consistently found to be reduced as early as 6 hrs after sulfur mustard exposure. This observation suggests that reduction in alpha6 integrin immunoreactivity is a good bioindicator of sulfur mustard-induced skin damage.
- 3) Established that apoptosis is a mechanism of epidermal basal cell death following sulfur mustard intoxication.
- 4) Immunohistochemical studies on sulfur mustard exposed human breast skin explants indicated alpha6 integrin immunoreactivity was reduced, again indicating that HD induced alterations of alpha6 integrin is the pathogenic factor of blister formation.
- 5) ELISA studies on interleukin 1 beta, interleukin 6, interleukin 8, and tumor necrosis factor alpha expression following HD exposure were inconclusive.

8) RESEARCH IN PROGRESS

Describe in no more than 100 words.

In addition to alpha6 integrin, I am currently conducting immunohistochemical studies to examine the effects of sulfur mustard on the changes of other epidermal basal cell integrins (alpha2beta1, alpha3beta1, and alpha5beta1) in skin sections exposed to neat sulfur mustard. Concurrently, I am examining the expression pattern of matrix metalloproteases in adjacent skin sections cut from samples used for the integrin investigation. These data will be analysed together to correlate expression of matrix metalloproteases to the loss of integrin adhesion molecules.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

Kan, R.K., C.M. Pleva, D.R. Backof, T.A. Hamilton and J.P. Petrali. 2001. Free-floating cryostat sections for immunoelectron microscopy: Bridging the gap from light to electron microscopy. Microscopy Research and Technique. 54: 246-253.

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Kan, R.K., C.M. Pleva, T.A. Hamilton, D.R. Anderson and J.P. Petrali. 2001. Sulfur Mustard Induced Apoptosis in Hairless Guinea Pigs. In preparation.

The NRC associateship gave me the opportunity to recognize my true ability as a scientist. I now have the confidence to tackle research areas within my research discipline. As a result, I have made significant contributions to the sulfur mustard research program. I am now ready to take on more responsibilities and have accepted a permanent job position as ultrastructural anatomist at MRICD.

Administrative Support

10 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the NRC staff

Comments:

The NRC staff has always been very helpful and courteous. The staff deserves a RAISE.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT

US Postal Service mailing address

Research Associateship Programs [TJ 2114]

National Research Council

2101 Constitution Avenue NW

Washington, DC 20418

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cc:

Express Delivery address

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National Research Council

1000 Thomas Jefferson Street, NW

Washington, DC 20007

Rev. 10/2001

cost-center #

c) Manuscripts in preparation, manuscripts submitted

Isolation of Japanese encephalitis virus from <*Culex tritaeniorhynchus*> mosquitoes (Diptera: Culicidae) collected in Korea.
Turell, M.J., R. Leon, T. Klein. J. Med Entomol.



FINAL REPORT FORM



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NAT'L. RESEARCH COUNCIL
2101 Constitution Ave, NW
Washington, DC 20418
FAX: 202-334-2759

Express mail delivery

Associateship Prgrms. [Suite 2114]
NAT'L. RESEARCH COUNCIL
1000 Thomas Jefferson St., NW
Washington, DC 20007



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1) NAME

Janos Milosevits M.D. Ph.D.

2) DATE

July 2, 2002

3) NAME OF LABORATORY/CENTER AND LOCATION

Walter Reed Army Institute of Research

4) DATES OF TENURE

from July 3, 2000 to July 2, 2002

5) NAME OF RESEARCH ADVISER

Carl R. Alving M.D.

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☒ Yes ☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

NA

8) PROFESSIONAL TRAVEL DURING TENURE List location(s) and date(s) of travel to scientific meetings. List foreign meetings separately.

Sarasota FL USA : Oct 27-30, 2000

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES List location(s) and date(s).

NA

10) TITLE OF RESEARCH PROPOSAL

Role of Natural Anti-Lipid Antibodies in C-Mediated Phys. and Path. Processes

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form. Utilize concepts and key words.

- 1) Analysis of squalene reacting monoclonal mouse antibodies
- 2) Detecting of squalene reacting natural antibodies in healthy and polyvaccinated humans by FACS
- 3) Analysis of crossreactivity of squalene reacting antibodies
- 4) Heat dependence binding of natural antibodies to squalene containing liposomes
- 5) Analysis of rat and pig granulocyte oxidative burst, effected by liposomes

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ASSOCIATESHIP PROGS

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National Research Council
Associateship Programs

FINAL REPORT

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Return this form directly to the NRC as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name Peng		First Name Daizhi	M.I.
2) FORWARDING Address (to which your tax statement will be mailed) 61 Zaozilanya Street, Chongqing 400015, China		FORWARDING Phone and E-Mail (if known) (086)(023)63853963 dzpeng@yahoo.com	
3) Today's Date May 15, 2002		Dates of Tenure from January 5, 1999 to May 4, 2002	
4) Current Agency AMRMC	Laboratory or NASA Center AISR	Division / Branch / Directorate Lab Division/Microbiology Branch	

5) NAME OF RESEARCH ADVISER

Albert T. McManus

6) TITLE OF RESEARCH PROPOSAL

Examination of DTC and PNA on Mortality in a Model of Antimicrobial Chemotherapy Resistant Sepsis

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Culture directed antibiotics have obvious therapeutical effects on burn wound sepsis rats within 3 days postburn .
- 2) The selection and dose of cultured antibiotics have influence on the effecacy of delayed antimicrobial therapy in burn wound sepsis.
- 3) Delayed piperacillin treatment mimic the clinical scenario where indicated antibiotic therapy is given and some patients still die of infection and organ dysfunction.
- 4) PDTC(NF-kB inhibitor) has no effect on the survival of sepsis rats in delayed piperacillin treatment, this might be related to the decreased serum level of IL-1 beta.
- 5) HMG-1 may be used as helpful markers of infection, tissue injury and inflammation.

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

The antibiotic treated sepsis model has been established as a more clinically relevant sepsis model. The mortalities of this model are 65% and 35%, which can be achieved by different doses of piperacillin(200 mg/kg or 800mg/kg, q12h 10 days, respectively). When pyrrolidine dithiocarbamate(PDTC) was used in this sepsis model, it has no effect on the mortality. These indicate that sepsis death was caused by uncontrolled infection rather than inflammation in this model. Serum HMG-1 level may be used as helpful markers of tissue injury, infection, and inflammation.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

No.

b) Books, book chapters, other publications

No.

c) Manuscripts in preparation, manuscripts submitted

In writing.

1. Efficacy of Delayed Antimicrobial Therapy in a model of infection related sepsis.
2. Pyrrolidine ithiocarbamate(PDTC) has no effect on survival in burn wound sepsis.
3. Effect of burn and infection on the serum level of HMG-1 in a rat model

10) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, inventors, and dates of applications.

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National Research Council Associateship Programs

FINAL REPORT

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1) Associate Last or Family Name Riemenschneider		First Name Jenny	M.I. L
2) FORWARDING Address (for tax statement / final stipend check) 14629 Keeneland Circle Gaithersburg, MD 20878		FORWARDING Phone(s) and E-Mail (if known) phone: (301) 947-2923 phone: e-mail: jenmell@yahoo.com	
3) Today's Date July 9, 2002		Dates of Tenure from March 1, 2000 to July 19, 2002	
4) Agency AMRMC	Laboratory USAMRIID	or NASA Ctr	Division / Branch / Directorate Virology/Molecular Virology
5) NAME OF RESEARCH ADVISER Connie Schmaljohn			
6) TITLE OF RESEARCH PROPOSAL			

EVALUATION OF DNA VACCINE STRATEGIES FOR EBOLA VIRUS IMMUNIZATION

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) Baculovirus derived Ebola virus glycoproteins are partially protective in guinea pigs
- 2) DNA vaccinated followed by protein boosts with Ebola virus glycoprotein is partially protective in guinea pigs
- 3) DNA encoding the protective antigen of Anthrax is protective against spore challenge in a rabbit model
- 4) DNA encoding the structural proteins of Venezuelan equine encephalitis virus is protective against infection in guinea pig
- 5) DNA antigens from multiple infectious agents can be combined in a vaccine without decreased efficacy

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

There are currently no vaccines for a variety of infectious agents such as Ebola and Marburg viruses. Although there are vaccines available for agents such as Venezuelan equine encephalitis (VEE) virus and Anthrax, improvements to these vaccines are needed. As an NRC associate I investigated the potential efficacy DNA vaccines for all of the forementioned bio warfare agents. My research to date has shown that DNA vaccines against Ebola and Marburg viruses are approximately 50% protective in a guinea pig model. Even higher levels of protection were demonstrated for VEE virus and Anthrax in guinea pigs and rabbits, respectively.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

None

Domestic

Heidebrink K, Mellquist J, and Schmaljohn C. Baculovirus expression of Ebola virus glycoprotein (GP) and nucleocapsid protein (NP). 19th Annual Meeting for the American Society of Virology, Ft. Collins, CO 2000 (Poster Presentation).

Riemenschneider JL, Custer DM, Garrison AR, and Schmaljohn CS. DNA vaccination by gene gun is protective against Venezuelan Equine Encephalitis virus in mice and guinea pigs. 20th Annual Meeting for the American Society of Virology, Madison, WI 2001 (Oral Presentation).

Garrison A, Riemenschneider J, Gelsbert J, Heidebrink K, Jahrling P, and Schmaljohn C. Ebola virus glycoproteins produced by recombinant baculoviruses protect guinea pigs from Ebola virus challenge. 50th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Atlanta, GA 2001 (Poster Presentation).

- 12) **SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES** Include dates, names and locations of seminars.
"DNA Vaccines for Highly Infectious Agents" given at the Food and Drug Administration on May 14, 2002

- 13) **PROFESSIONAL AWARDS RECEIVED DURING TENURE**
None

- 14) **NEW POSITION TITLE**
Biologist

- 15) **NEW POSITION ORGANIZATION** Provide name and city of organization.
Food and Drug Administration, Bethesda, MD

- 16) **NEW POSITION STATUS / CATEGORY** Please indicate only one.

- ☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
Abbreviate Host Laboratory/Center _____
☒ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory

- ☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Admin in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify _____

- 17) **APPRAISAL OF THE ASSOCIATESHIP PROGRAM** Please rate each of the following
Your experience as a NRC Research Associate in this federal Laboratory 1 (poor) to 10 (excellent)

- 10 Short-term value: development of knowledge, skills, and research productivity
Comments:

USAMRIID was a great place to do an associateship. I had to hit the ground running and was actually surprised I could do so after graduate school, but I was ready for the challenge. I learned a tremendous amount in a short amount of time and was very productive in terms of the scientific research. I have been involved in research projects on numerous viruses and bacteria and learned much about each of them over the last 2.5 years.

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National Research Council Associateship Programs

FINAL REPORT

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1) Associate Last or Family Name		First Name	M.I.
Roberson		Melinda	R
2) FORWARDING Address (to which your tax statement will be mailed)		FORWARDING Phone and E-Mail (if known)	
2920 Carlyle Court		443-512-0826	
3) Today's Date		Dates of Tenure	
May 30, 2002		from May 2, 2000 to May 30, 2002	
4) Current Agency	Laboratory or NASA Center	Division / Branch / Directorate	
AMRMC	MRICD	Pharmacology/Applied	

5) NAME OF RESEARCH ADVISER

Dr. John H. McDonough

6) TITLE OF RESEARCH PROPOSAL

The effects of low-dose sarin exposure in a guinea pig model

7) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing key concepts/words.

- 1) 180 animals exposed to low-level sarin doses or saline (controls). Animals examined for signs of sarin intoxication, body temp, weight, EEG and general activity, and flinch threshold during the exposure period, and 3, 10, 30 and 100 days post-exp.
- 2) Low-level sarin exposure results in a dramatic reduction of red blood cell (RBC) cholinesterase (ChE) activity in both the 0.2 LD50 and 0.4 LD50 groups (<40% and <20% of baseline, respectively), as compared to controls.
- 3) Significant reduction in brain ChE activity in the six brain regions examined in the 0.4 LD50, but not in the 0.2 LD50, sarin animals, compared to controls. There was a steady return to baseline by 100 days post-exposure in both RBC and brain ChE.
- 4) Significant increases in activity (total distance traveled and center time) in the 0.4 animals, and in rearing in both the 0.2 & 0.4 animals at 100 days post-exposure. A mild trend toward increased flinch threshold in exposed animals was observed.
- 5) No change in body weight or temperature (pre- or post-injection), or in stereotypical behavior at any time point examined. No sarin-related change in EEG activity during the exposure period; the analysis of post-exposure EEG records is ongoing.

8) RESEARCH IN PROGRESS Describe in no more than 100 words.

Interestingly, while the greatest inhibition of ChE, both RBC and brain, appears at the end of the exposure period (exposure day 10), it is at 100 days post-exposure--when ChE activity has returned to near-control levels--that the behavioral (activity) differences occur. This suggests that the initial reduction in ChE activity may lead to changes in neuropathology, neurotransmitter receptors or downstream neurochemical cascades that ultimately influence behavior. To determine what further changes in brain parameters occur, and whether these changes are permanent--or at least persistent, regional neurotransmitter receptor binding assays, examination of cortical EEG activity at the post-exposure time points, and neuropathological evaluations are ongoing. Western blot analysis of receptor-regulated amyloid precursor protein is also being carried out.

9) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications

Roberson, M.R., Schmidt, S.B., Gonzales, M.D. and McDonough, J.H. (2001) The potential neurotoxic effects of low-dose sarin exposure in a guinea pig model. Proceedings of the 2001 Conference on Chemical and Biological Defense.

c) Manuscripts in preparation, manuscripts submitted

Roberson, M.R., Schmidt, S.B., Gonzales, M.D., McAVoy, K.M., Francisco, C.P. and McDonough, J.H. (2002) The effects of chronic, low-dose sarin exposure on nociception, general activity and acetylcholinesterase activity (manuscript in preparation).

Comments:

I am gratified to have been offered a permanent position at MRICD, and am grateful to the MRICD and the NRC for providing me with a wonderful postdoctoral opportunity. This opportunity led to further personal and scientific development, as well as to a permanent job in a challenging and supportive Institute.

Administrative Support

8 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the NRC staff

Comments:

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT

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13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

none

14) NEW POSITION TITLE

consultant

15) NEW POSITION ORGANIZATION Provide name and address of organization.

WRAIR

16) NEW POSITION STATUS / CATEGORY Please indicate only one.

- | | |
|--|--|
| <input type="checkbox"/> Remain at Host Agency as Permanent Employee | <input type="checkbox"/> Research/Teaching at US College/University |
| <input checked="" type="checkbox"/> Remain at Host Agency as Contract/Temporary Employee | <input type="checkbox"/> Research/Teaching at Foreign College/University |
| Abbreviate Host Laboratory/Center <u>WRAIR</u> | <input type="checkbox"/> Research/Admin Position in Industry |
| <input type="checkbox"/> Research Position at Another US Government Laboratory | <input type="checkbox"/> Research/Admin in Non-Profit Organization |
| <input type="checkbox"/> Administrative Position at US Government Laboratory | <input type="checkbox"/> Postdoctoral Research |
| <input type="checkbox"/> Research Position at Foreign Government Laboratory | <input type="checkbox"/> Self Employed |
| | <input type="checkbox"/> Other Please specify _____ |

17) APPRAISAL OF THE ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a NRC Research Associate in this federal Laboratory

- 7 Short-term value: development of knowledge, skills, and research productivity

Comments:

- 7 Long-term value: how your NRC Associateship award affected your career to date

Comments:

Administrative Support

- 10 Quality of the support you received from the federal Laboratory

- 10 Quality of the support you received from the NRC staff

Comments:

COL Strickman was immensely helpful during my tenure. He made me part of his team, and facilitated collaborations with outside institutes, and researchers abroad. He made sure that I had what I needed to get the job done. Sara Rothman and Louise Davis were always helpful and supportive during my tenure, and Lisa Bevel was a tremendous help and was very patient in answering all of my questions.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT

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1000 Thomas Jefferson Street, NW
Washington, DC 20007

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cost-center #

N/A

Domestic

N/A

12) **SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES** Include dates, names and locations of seminars.

06/11/01 Mutations in the novel procadherin PCDH15 cause Usher syndrome type 1F
At Division of Biochemistry, WRAIR

13) **PROFESSIONAL AWARDS RECEIVED DURING TENURE**

N/A

14) **NEW POSITION TITLE**

Associate Professor

15) **NEW POSITION ORGANIZATION** Provide name and address of organization.

Inst. of Otolargngology, Chinese PLA General Hospital.

16) **NEW POSITION STATUS / CATEGORY** Please indicate only one.

- | | |
|--|--|
| <input type="checkbox"/> Remain at Host Agency as Permanent Employee | <input type="checkbox"/> Research/Teaching at US College/University |
| <input type="checkbox"/> Remain at Host Agency as Contract/Temporary Employee | <input type="checkbox"/> Research/Teaching at Foreign College/University |
| Abbreviate Host Laboratory/Center _____ | <input type="checkbox"/> Research/Admin Position in Industry |
| <input type="checkbox"/> Research Position at Another US Government Laboratory | <input type="checkbox"/> Research/Admin in Non-Profit Organization |
| <input type="checkbox"/> Administrative Position at US Government Laboratory | <input type="checkbox"/> Postdoctoral Research |
| <input checked="" type="checkbox"/> Research Position at Foreign Government Laboratory | <input type="checkbox"/> Self Employed |
| | <input type="checkbox"/> Other Please specify _____ |

17) **APPRAISAL OF THE ASSOCIATESHIP PROGRAM** Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a NRC Research Associate in this federal Laboratory

9 Short-term value: development of knowledge, skills, and research productivity

Comments:

Enhanced my knowledge and technical skill about the protein experssion in baculovirus system.S

9 Long-term value: how your NRC Associateship award affected your career to date

Comments:

Meeting with many accomplished scientists in this area will greatly benefits to my acedemic career in the future.

Administrative Support

9 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the NRC staff

Comments:

Staff and support personels in the Division of Biochemistry, WRAIR, is very supportive, which made my project has been going smoothly and productively. NRC Staff are most frendly and efficient professionals I have ever seen in the government agency. The quality of their work (Lisa Bevell, Peggy Wilson) are very impressive.

18) **PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT**

Give more chance to foreign scientist to be NRC fellows.

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Peng Zhang, Patrick Ng, Diana Caridha, Richard A. Leach, Ludmila V. Asher, Mark J. Novak, William J. Smith, Steven L. Zeichner, and Peter K. Chiang
In press Br. J. Pharmacol.(2002)

b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Malarial methionine aminopeptidase (MetAP) genes from *Plasmodium berghei*
Peng Zhang, Diarmuid E. Nicholson, Janusz M. Bujnicki, Michael Ferdig, Jianbing Mu, Xinzhuan Su, Wilbur K. Milhous and Peter K. Chiang
In preparation

10 *PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH*

Provide titles, inventors, and dates of applications.

11) *PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES*

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

1.

Zhang, P., Ng, P., Mark, M.J., Zeichner, S., and Chiang, P.K.

Detection of Geath Genes by microarray in the Apoptosis of Jurkat Cells Induced by an Alkylating Agent 2-Chlorethylethyl Sulfide.

40th Annual Meeting of Society of Toxicology, San Francisco, CA

2.

Chiang, P.K., Leach R.A., Caridha, D., Smith, W.J., and Zhang, P.

Signature Gene Expression of Jurkat cells treated with Sulfur Mustard and the protection by 3-Deaza-(+)aristeromycin

In XIVth Congress of Pharmacology, July 7-12, San Francisco, CA.

Pharmacologist 44(2 Supplement1) A126, 2002

Domestic

1.

Peng Zhang, Diarmuid E. Nicholson, Janusz M. Bujnicki, Michael Ferdig, Jianbing Mu, Xinzhuan Su, Wilbur K. Milhous, Peter K. Chiang

Malarial Methionine Aminopeptidase Genes from *Plasmodium falciparum* and *Plasmodium Berghei*

Genomics Workshop, Silver Spring, MD

2.

Zhang, P., Caridha, D., Leach R.A., Smith, W.J., and Chiang, P.K.

Signature Gene Expression of Jurkat cells treated with Sulfur Mustard and the protection by 3-Deaza-(+)aristeromycin

Bioscience Review Conference, Hunt Valley, MD

3.

Leach R.A., Caridha, D., Zhang, P., Smith, W.J., and Chiang, P.K.

Early Cellular Responses to Sulfur Mustard Intoxication

Bioscience Review Conference, Hunt Valley, MD

12) *SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES* Include dates, names and locations of seminars.

13) *PROFESSIONAL AWARDS RECEIVED DURING TENURE*

14) *NEW POSITION TITLE*

Scientist

15) *NEW POSITION ORGANIZATION* Provide name and address of organization.

Div. of ET

Walter Reed Army Institute of Research

503 Robert Grant Ave.